bulletin

NATIONAL TUBERCULOSIS ASSOCIATION

APRIL 1958

"We are now entering a new era in the use of the tuberculin test."

—Dr. Floyd Feldmann
(page 50)

A report on tuberculin testing studies under way in Hawaii, North Carolina, and California
page 51

TB in cattle has been virtually eliminated due to an intensive tuberculin testing program
page 55

Highlights of the midwinter meeting of the Board of the National Tuberculosis Association
page 59

Testing the Tuberculin Test

by Floyd M. Feldmann, M.D.

Medical Director, National Tuberculosis Association

It is amazing that, in this stage of our scientific development, so little is known about such a well-recognized biological phenomenon as the tuberculin test. In spite of extensive research by many competent investigators, the basic mechanism of sensitivity to tuberculin continues to elude us. And of more importance in the immediate campaign against tuberculosis, there is little recorded information on the practical uses of the test for case-finding purposes under the situations encountered in communities with diverse characteristics. Perhaps the fact that the tuberculin test has been useful even with crude materials and techniques has blinded us to its complexities and its potentials. At times, its use has seemed to take on religious aspects, with believers and nonbelievers and heated controversies, a logical result of oversimplification and a lack of scientific documentation.

Some of the retardation in our progress might be blamed on the inadequacies of our scientific communication system, for it must be admitted that real advances were made by the Tuberculosis Research Office of the World Health Organization as a part of the BCG programs and by investigators of our own U.S. Public Health Service many years ago. Their publications are just now receiving the wide attention they deserve and have sparked the renewed interest in this field.

Fortunately, we are now entering a new era, as evidenced by the brief report of three field studies on the following four pages of this issue of the BULLETIN. These studies are representative of several under way at the present time, which are exploring some theoretical approaches to the practical uses of the tuberculin test in an objective way. Is it true that mass tuberculin testing is a useful tool for finding new cases of tuberculosis? What groups should be tested? How expensive is it? Is the greater precision of the Mantoux test worth something in terms of a better grasp of the tuberculosis problem in the community and a more efficient control program? Would a tuberculin reactor register be practical? Do practical difficulties overshadow the theoretical advantages?

Fortunately, some of the preliminary results are encouraging. Good public participation has been demonstrated by all three projects, and the immediate yields in new cases are impressive. Two lessons learned are that planning must be thorough and that continuous evaluation will lead to more efficient operation. Increased interest in tuberculosis control by the medical profession and the public has been realized but is difficult to measure.

This new turn of events, this determined search for the facts, could well lead, eventually, to a more comprehensive and unified attack on tuberculosis. Why not try to find all active cases promptly by keeping those at greatest risk under constant supervision? We have a precision tool for doing this, but its cutting edge needs more sharpening. Even now, we know it is theoretically possible to single out, with some success, most individuals who are carrying live tubercle bacilli, and we have some information on their relative risks of developing active tuberculosis. These risks vary with age, sex, size of tuberculin reaction, body weight, and certain other factors. A better understanding of these risks and the potentials and limitations of the tuberculin test might overcome some of the obstacles still in the way of a rapid and final squeeze play on the tubercle bacillus.

bulletin

NATIONAL TUBERCULOSIS ASSOCIATION

VOL. 44 No. 4

Published monthly except August at 404 North Wesley Ave., Mount Morris, Ill., by the National Tuberculosis Association for persons interested in public health and administrative aspects of tuberculosis control, and made possible through the annual sale of Christmas Seals. The editors welcome articles for possible publication. If any article deals with a subject on which there may be differences of opinion, the BULLETIN will be glad to consider presentation of varying opinions in the same or subsequent issues. Editorial Office: 1790 Broadway, New York 19, N.Y.

ELLEN LOVELL, Editor; GRACE JACKSON, Managing Editor

Second class mail privileges authorized at Mount Morris, Illinois.

TUBERCULIN TESTING TODAY

A report on three tuberculin testing programs now being carried on by tuberculosis associations in Hawaii, North Carolina, and California

In Oahu, Hawaii, 22,958 school children received Mantoux tests during the first year of a five-year study; 1,666 were positive; six had previously unknown TB.

Tuberculin testing, long recognized as a reliable means of detecting tuberculosis infection, is assuming an increasingly important role in tuberculosis control. This resurgence of interest is evidenced by the growing number of tuberculin testing projects being reported throughout the United States and its territories.

Fortunately, modern tuberculin testing is not experiencing a topsy-like growth; rather, today's projects are profiting by the years of experience of health departments and tuberculosis associations in screening X-ray programs. Current tuberculin testing programs are marked by careful planning, which incorporate the cooperation of agencies in designing objectives, in selecting operational procedures, and in evaluating results through detailed analysis of records.

The three tuberculin testing reports that follow describe how the programs were conceived, how they are being carried out, and what the preliminary findings show in widely separate areas — Pamlico County, North Carolina (reported by C. Scott Venable, executive secretary, North Carolina Tuberculosis Association); Oahu, Territory of Hawaii (reported by Bess Hammer, executive director, Oahu Tuberculosis and Health Association); and a number of California counties (reported by E. L. Daggett, director of public information, California Tuberculosis and Health Association). Each program has its own distinctive characteristics, but all demonstrate elements of sound planning and the adoption of basic procedures essential to the effective use of the tuberculin test in today's attack on tuberculosis.

The Oahu Program

In the fall of 1955, a five-year pilot study in tuberculin testing of school children in a Honolulu area was initiated by the Oahu Tuberculosis and Health Association and is being cosponsored by the Department of Health and the Department of Public Instruction of the Territory of Hawaii. Its primary objectives are:

1. To determine how effective a mass tuberculin testing survey is in finding cases among child reactors and their adult associates.

2. To determine the prevalence and the incidence of tuberculous in-

fection in the area being studied.

3. To determine the prevalence and the incidence of tuberculous disease in relation to the size of the tuberculin reaction.

4. To determine the degree of variation to be expected in tuberculin reactions.

5. To determine what portions of tuberculin testing procedures can be adapted to the public health program for tuberculosis control.

6. To attempt, on a limited basis, to arrive at criteria and procedures for a public health program of chemoprophylaxis of recently infected individuals.

The preliminary results have given the term "tuberculous infection" a new and less abstract meaning in the community. During the first year, 22,958 Mantoux tests were given. The preliminary figures show a yield of .87 new cases of tuberculosis per 1,000 children tested. Fourteen adults (sources) and 6 children were found with previously unknown tuberculosis, as defined by absence from the Department of Health's tuberculosis case register. These cases range from primary tuberculosis to far-advanced tuberculosis of undetermined activity (probably active) to definitely active disease. Fewer cases of new tuberculosis were found during the second year's study, which was completed in September, 1957.

During the first year, a total of 1,666 children (7.3 per cent of the total tested), aged 5 to 18, had reactions to the Mantoux test. Criteria for a reactor was 6 mm. induration or more. Because of the greater number of elementary school children tested, the reactor rate of 7.3 per cent is biased toward the younger age group. The adjusted reaction rate is 8.5 in a population of 5- to 18-year-olds. At least 93 per cent of the reactors were X-rayed following their test.

The cost of the first year's program was $25,688, broken down as follows: salaries, $21,268; travel, $688; materials and supplies, $1,505; general expenses, $2,185; miscellaneous, $42.

Possibly the most distinguishing feature of the study was the preliminary period of candid discussion by numerous physicians, nurses, school administrators, teachers, parents, statisticians, and other health workers. By this method, objectives were clarified, methods were reviewed, and procedures were carefully devised to combine efficiency and standardization of operation.

For example, the tests were administered and read with complete uniformity by a team of public health nurses. Every effort was made to X-ray contacts of reactors, with the result that an average of four adult sources were examined for each reactor. Record procedures were planned well in advance, and the professional and lay community were thoroughly informed about the study before it got under way.

The response to tuberculin testing from kindergarten up through high school in 27 public and private schools (24,516 enrollment) exceeded expectations. Ninety-four per cent of the children were tested. The youngest stoically accepted the tests, while the intermediate and high school youngsters joined voluntarily in health committees of students to help get the job done. A few teen-agers refused the test despite parental consent. Many parents volunteered their services to help the project, and understaffed school administrators welcomed such help in preparing for the testing program. Letters received by the Oahu association, and the full press coverage, indicate the esteem in which this project is held in the community.

Only very tentative conclusions are attempted at this time, since the study is designed to be a five-year project.

Specific epidemiological findings must be withheld until validated by additional years' results. In terms of case finding, it is possible to say, on the basis of one school year, that Mantoux testing of school children may be an important supplement to other case-finding methods. The reaction rate is not far from estimates based on earlier samplings, according to Dr. Robert H. Marks, chief of the Bureau of Tuberculosis of the Department of Health, Territory of Hawaii, and medical director of the project.

Few projects have brought the association closer to the public or taught its committees as much about infection in the community. The association has learned that public interest in tuberculosis infection and in tuberculin testing is greater than it had believed.

A report of the first year's study can be obtained from the Oahu Tuberculosis and Health Association, 1018 Lunalilo St., Honolulu 14, Hawaii, for $1.00. The report on the second year's study will be available this month.

All tests in the Oahu study are read with complete uniformity by team of public health nurses.

The North Carolina Program

How many people in a community are infected with TB germs? What is the conversion rate from negative to positive and from positive to active disease by age, sex, and race? Would routinely X-raying positive reactors and their contacts from a case register of positive and negative reactors, with adequate follow-up and diagnostic examinations provided, be productive in locating previously unknown cases of tuberculosis?

The answers to these and other puzzling questions are under investigation in North Carolina through a five-year county-wide tuberculin testing pilot study which began in the fall of 1956. Sufficiently detailed records are being maintained in the interest of epidemiological study and research.

The pilot study is under the direction of a State Coordinating Committee representing its five cosponsors. Chaired by Dr. David T. Smith,

of Duke University, the committee established basic medical and other criteria and selected a suitable county. It now functions as an advisory group, evaluates, sets policies, and adopts an annual budget.

Pamlico County, in the eastern part of North Carolina, was selected. Predominately rural, with a nontransient population of 9,993 (U.S. census, 1950), its people are occupied primarily in farming and fishing.

During the first year of the study, the cosponsors worked together in this way:

The North Carolina State Board of Health provided mobile units for X-rays and a full-time clerk for the local health department, and read the films.

The North Carolina Sanatorium System examined suspected cases, gave diagnostic tests, and furnished beds promptly for cases found.

The U.S. Public Health Service provided the tuberculin materials and a doctor and a team of nurses fully equipped to do the testing.

The Pamlico County Health Department aided the PHS in mass testing and in the follow-up program.

Affiliated tuberculosis associations in North Carolina provided a budget of approximately $5,500 to cover the cost of an additional full-time nurse for the local health department, along with some equipment and supplies.

Mass media, group meetings, and a house-to-house canvass were used in the educational, promotional, and organizational phases of the program. Volunteers making the canvass were trained in workshops cooperatively planned and conducted by the local health department and the staffs of the North Carolina Tuberculosis Association and the state Board of Health. The volunteers took a census, explained the program by word of mouth, answered questions, urged participation, and left pertinent materials in each household. The volunteer canvass was amazingly successful, recording 9,976 persons against the 1950 census of 9,993.

Children and teachers were tested in November. They received a PPD-S intradermal injection of 0.0001 mg. (5 T.U.), a patch test, and an intradermal injection containing other antigens to test for allergies that might influence sensitivity. All three tests were administered on the first day.

Five public health agencies, including the North Carolina Tuberculosis Association and affiliated associations, are sponsoring a five-year county-wide tuberculin testing pilot study in Pamlico County, N.C. Thus far, 65 per cent of the total population have received tests.

In 48 hours, the children and teachers returned for the reading of the 5 T.U. test and the patch was taken off. Reactors to the 5 T.U. received a 14" x 17" X-ray at the health department immediately. Those negative received a fourth test—a PPD-S intradermal injection of 0.002 mg. (100 T.U.). In 48 hours they returned to have the 100 T.U. and the patch tests read.

Adults and preschool children tested in February received a 70 mm. chest X-ray in one mobile unit and stepped into another for the tuberculin tests. They went through the same testing regime described above, except that one-half the adult population did not receive the 100 T.U. and patch tests.

Each person tested was also asked whether he owned any animals—horses, cows, pigs, or chickens—to find out if there is any relationship between ownership of such animals and the reaction of the householder to tuberculin.

Space does not permit a detailed reporting of reactor rates according to age, sex, race, or tuberculous and nontuberculous pathology. However, 7,140 residents participated in the tuberculosis survey, with 65 per cent of the total population receiving tuberculin tests. The names and addresses of 2,400 persons not tuberculin tested are recorded in the register and will serve as the foundation for a follow-up program by the Pamlico County Health Department. Emphasis will be placed on areas of high incidence of infection and on parents whose children were tuberculin reactors.

In the spring of 1958, the PHS team will return to administer the 5 T.U. intradermal test to children and teachers. In 1959, mass tuberculin testing of the entire population will be repeated.

The California Program

A two-year tuberculin testing demonstration, cosponsored by the California Tuberculosis and Health Association, the state Department of Public Health, and the U.S. Public Health Service, is under way in California and has passed the halfway mark.

The project had its seeds in the creation, in January, 1955, of a CTHA Subcommittee on Tuberculin Testing. Out of this grew the formation of the present Tuberculin Testing Study Committee and the operating procedures which were formulated and endorsed by the CTHA, the state health department, the Conference of Local Health Officers, the California Conference of Tuberculosis Workers, and the Tuberculosis Program of the U.S. Public Health Service.

The over-all objective of the study is to establish the place of tuberculin testing in modern tuberculosis control procedures—including why, where, and how tuberculin testing should be used. At least 100,000 public, private, and parochial school children will be included in initial and repeat-year testing.

Some of the aims and objectives are to use these findings as a yardstick to establish trends of infection, to encourage more communities to continue testing beyond the study period, to appraise the efficiency and economics of tuberculin testing as a case-finding procedure, and to offer the information gained as training tools for physicians interested in the field.

From the study's inception, the CTHA testing team has been headed by Dr. Cabot Brown, of San Francisco, assisted by two nurses. The pilot study was made in October, 1956, at Brentwood, in Contra Costa County, where students in kindergarten through the eighth grade were tuberculin tested.

After the "shakedown" run at Brentwood, the team began its 1957 field work on more than 70,000 kindergarten-through-eighth-grade students in eight counties. As of December 31, 1957, a total of 58,573 students had been tested and read, with 1,400 reported positive.

A total of nine entire counties and areas in two others will be tested during the 1957-58 school term, of which four will be repeat testing.

Throughout the study, it has been repeatedly affirmed that planning for coordination of all involved agencies is a basic requirement. To accomplish this, the local associations established steering committees. They are encouraged to include representatives of the schools, the county medical society, parent-teacher and teacher's associations, and the health and welfare departments. This has helped tremendously in delegation of responsibilities and in planning the many details—recruitment and training of volunteers, scheduling the actual testing and reading, and integrating the educational and publicity programs in the schools and in the community.

The material used for testing is PPD from a standardized lot. The dosage is intermediate strength (5 T.U.). Reactions are measured with a ruler and recordings made in millimeters of induration and erythema. Notations describe in code the characteristics of the reaction.

An evaluation of the usefulness of tuberculin testing in case finding must be based on standardized follow-up procedures for reactors. For the purposes of this study, complete follow-up means tracking down all reactors and their close family contacts. If local resources exclude this possibility, minimum follow-up will be made of all reactors and the close family contacts of those reactors in kindergarten through second grades. Follow-up is ordinarily conducted by the local health department and the results reported to CTHA.

In communities where health department personnel is limited, the local tuberculosis association is encouraged to set aside a special fund to cover the cost of a public health nurse who can be assigned to the health department for follow-up.

These standards are minimum requirements:

1. A chest X-ray of every tuberculin-positive child regardless of age.
2. A chest X-ray of every household and close contact of children who converted within two years.
3. Clinical and bacteriological studies of all persons with suspicious X-ray films.

All completed questionnaires and record forms are sent to CTHA, where they will be processed for the next testing and/or detailed analysis. The major analysis will be done by CTHA after the second year of testing.

Herbert Salinger, principal of Redwood School, Napa County, Calif., gets a tuberculin test from nurse Vida Popovich, of the CTHA skin-testing team.

The Bovine Tuberculin Test

The successful tuberculin testing program carried on against TB in cattle can serve as a challenge to everyone concerned with eradicating the disease in human beings

by Paul S. Dodd D.V.M.

Dr. Dodd has been county veterinarian of Vermilion County, Ill., for the past 30 years and is president of the Illinois Tuberculosis Association. He was formerly president of the Vermilion County Tuberculosis Association. A graduate of the Indiana Veterinary College, Dr. Dodd was in general practice for ten years before taking over his present position. His article was solicited by the Governing Council of the National Conference of Tuberculosis Workers.

At one time, tuberculosis of the food-producing animals was the most serious disease that confronted American farmers. The meat-packing industry was obliged to condemn about 10 per cent of all beef and pork carcasses due to tuberculosis. Beef-cattle breeders and dairymen became increasingly aware of the dangers of the disease; and medical men and public health authorities realized that milk from infected cattle was causing appreciable human infection and loss of life, especially in infants and children.

As a result, in 1918, a cooperative campaign for the control and eventual eradication of bovine tuberculosis was organized. The United States Bureau of Animal Industry, the state livestock sanitary officials, livestock owners, and others interested in the livestock industry joined in the campaign.

Prior to 1918, some tuberculin testing had been done on individual herds under what is known as the accredited-herd plan; but it was insignificant so far as a disease control plan was concerned, and Bureau veterinarians visualized a nation-wide program. Experienced in handling diseases of national importance, they said, "We will test all the cattle in the United States. We will eradicate bovine tuberculosis."

When this plan was proposed it was not considered feasible; it was thought to be too comprehensive and impossible to execute. Yet in one decade, practically all the cattle had been tested at least once. By 1936, 95 per cent of the counties were accredited—that is, they had reduced the incidence of reactors to less than one half of one per cent. Over 176 million tests had been made, and more than three million reactors had been found and slaughtered. Now, 40 years later, the disease has been practically eradicated. During the fiscal year 1956, over nine million cattle were tested. The 14,000 reactors found constituted 0.15 per cent of the animals tested. Since 1950, the incidence of reactors has been rather consistent, ranging from 0.11 to 0.15 per cent.

The National Campaign

When the national campaign was being planned, the Bureau took the lead in establishing fundamental rules and regulations and in supervising the work. As an incentive to cattle owners, the federal government offered to pay indemnity to partially cover the losses incurred in the slaughter of infected cattle and asked the various states to match those payments. The meat packers offered a premium of ten cents per hundredweight on swine from accredited areas. The Bureau stipulated the type of tuberculin to be used and assumed the job of training veterinarians in the method of operation. They also furnished uniform forms to be used for reports and records.

In the beginning, the testing was on a voluntary basis. Owners of purebred cattle were primarily interested, and dairy-herd owners became increasingly concerned. Cities began to demand milk from tuberculosis-free cattle, and breeders wanted replacements from clean herds. Neighbors influenced neighbors, and in a comparatively short time, a majority of herd owners permitted their herds to be tested. Meanwhile, public health authorities were carrying on educational and publicity campaigns, along with the Bureau and other organizations.

As the testing progressed and areas were accredited, the Bureau developed regulations to prevent the movement of untested cattle between states, and the states passed similar legislation to protect themselves. Thus the transportation of untested cattle and the spreading of bovine tuberculosis was noticeably curtailed.

Illinois Law

In Illinois, a compulsory test law was passed in 1928. It stipulated that after 75 per cent of the cattle in a county had been tested, the remaining 25 per cent must be subjected to the test and the owners must permit the work to be done without interference. Any owner refusing to submit his herd for the test was subject to a fine and imprisonment. Some states passed a compulsory test law before a majority of the cattle had been tested and encountered considerable opposition—some of it armed and rather violent. While Illinois had some discouraging experiences, favorable pub-

lic opinion prevailed and very little serious trouble occurred.

Prior to 1920, the tuberculin test commonly used was the subcutaneous test. It was a thermal test, and while reasonably effective, it was slow and expensive—under ideal circumstances, a veterinarian could test only 40 to 50 head of cattle a day. However, the Bureau had been experimenting with a new method, the intradermal test, and since 1920 this test has been accepted as the official and universally approved method.

The test is made by injecting one drop of specially prepared 10 per cent tuberculin into the skin of the caudal fold. Reactions are indicated by a noticeable swelling at the site of the injection. These swellings may be as small as a pea or as large as a hen's egg. They may be hard and circumscribed or soft, doughy, and diffused. Proper instruction, careful operation, and experience are necessary for the veterinarian to accomplish a successful program of tuberculosis eradication.

When a reactor is found, that animal is sent to slaughter within 15 days. The balance of the herd is quarantined, and no animals can be moved from the premises, except for immediate slaughter, until two negative retests are made at 60-day intervals. If a reactor is found on either subsequent retest, the same ruling applies.

The original period of accreditation was three years, which meant that a complete retest of all cattle in a county must be made within that time. Since the disease has become less prevalent, the Bureau has decreed that when the incidence of infection has been reduced to one tenth of one per cent, an area may be accredited for six years.

Swine and Avian Infection

Natural sources are no doubt responsible for many unusual suspicious cases and unorthodox reactions. Swine, avian, and human infectors are known to exist. On many farms, swine and avian infection exist simultaneously where reactor cattle are found. Since there is no swine type of tuberculosis, that species is either infected by the avian, human, or bovine type. Field experience would indicate that avian infection is readily transmitted to swine, and they in turn infect exposed cattle. Avian infection may not be immediately pathogenic to cattle, but we do know that it will cause unusual or false reactions to the tuberculin test, causing considerable confusion.

In some instances it has been possible to determine the infective organism by using a different type of tuberculin. A bovine showing a suspicious reaction with bovine tuberculin may be retested with avian tuberculin and show a well-marked, positive reaction, thus indicating the source of infection as avian. Swine simultaneously injected with bovine and avian tuberculin may react to one injection, pointing to the causative agent as either bovine or avian, as the case may be.

Avian tuberculosis, generally considered a disease of farm poultry flocks, may be found in any of our feathered friends, such as pigeons, sparrows, and domesticated parakeets. Pets such as dogs and cats may also be carriers of tuberculosis. Poultry may be primarily infected from the human, thus starting a chain of infectors from the human, through the poultry and swine to the bovine, and then back to the human.

Typing experiments indicate that under certain favorable circumstances, any type of tubercle bacillus may be pathogenic to any susceptible type of host. Even though, in the last analysis, it may not be possible for a specific type of tubercle bacillus to establish clinical symptoms of tuberculosis in a particular host, it will and does sensitize the host to the extent that he will react to the tuberculin test. Therefore, a thorough follow-up and examination of all potential infectors is sometimes necessary to determine the source of infection. Since no doubt exists about the cross-infection of the human and the bovine types of tuberculosis, the ultimate hope of the bovine eradication campaign seems to rest upon the total eradication of the disease from all susceptible species. Just so long as we have virulant tubercle bacilli of any type, just so long will we be faced with the menace of tuberculosis.

Briefly checking the records, we find there were approximately the same number of human deaths from tuberculosis as bovine reactors (14,000) during the year 1956; but there remained an estimated 800,000 active and inactive cases of human tuberculosis. The bovine infectors are gone. I have no desire to be critical, but from the viewpoint of a veterinarian engaged in the bovine eradication program, it seems a most appropriate time to re-evaluate our human case-finding plans. If the simple tuberculin test has been the predominating factor in one of the most outstanding disease eradication programs in our country, there is no logical reason why its use in the human field will not yield correspondingly good results.

Just to find reactors, however, is only half the job. A complete follow-up on each and every reactor is the deciding factor in success or failure. Numerous criticisms have been made about the wasted effort in human tuberculin testing. In my opinion there is no fault in the testing, but in the confusion, arguments, petty bickering, and lack of understanding of its purpose, and the valuable information it will produce, as a case-finding agent.

When we see a wisp of smoke we know not whether we are going to find a dying ember or the start of a raging forest fire. But we do know that the quicker we find the cause of the smoke, the better chance we have of preventing a major conflagration. Let's investigate! A small red spot on some child's arm as the result of a simple tuberculin test may save years of human suffering, many lives, and untold thousands of dollars.

Tuberculosis workers in the human field have many notable accomplishments to their credit; yet in the 75 years since Koch discovered the tubercle bacillus and the more than 67 years since he produced the first tuberculin, we have failed to take full advantage of these discoveries. It seems rather ironical that veterinarians have accomplished so much with the simple tuberculin test that as far as tuberculosis is concerned, it's much safer to be born a calf than a baby in America today.

• questions and answers on the TUBERCULIN TEST

Wherever the American Trudeau Society-National Tuberculosis Association exhibit "Time to Test" (tuberculin skin test) is shown, interested spectators gather and ask a great variety of questions about tuberculin testing. Here are some typical questions and the most complete answers available at the moment:

Where can platinum needles be purchased?

At the J. Bishop Platinum Works, Malvern, Pa.

What is the cost of PPD (Purified Protein Derivative) in the various strengths?

One pharmaceutical catalogue lists prices as follows: First and second strength PPD, $1.90 per vial of 10 tests; first and second strength PPD, $5.00 per vial of 100 tests; intermediate strength PPD, $1.90 per vial of 10 tests; intermediate strength PPD, $2.50 per vial of 50 tests. Groups planning testing programs may obtain PPD from Merck, Sharp and Dohme and Parke-Davis. Special prices may be available depending on the quantity purchased.

What is intermediate strength PPD?

Three strengths of OT and PPD are in general use. They are first, intermediate, and second. Intermediate strength used for routine case finding consists of 0.1 mg. of OT or .0001 mg. PPD in 0.1 cc. of dilutent. This intermediate strength PPD is five times that of the first test strength and one-fiftieth that of the second test strength. Sometimes an intermediate strength of .0002 mg. PPD is used. The intermediate strength is designed for use primarily as a single test dose for routine case finding.

Is the Mantoux test always preferred to the patch test?

Yes, because a measured amount of tuberculin is introduced into the skin. The test can be read with precision and measured. It cannot be removed accidentally or tampered with. It is the best test we know of at this time. The patch test is not as sensitive as the intradermal test, and some reactions will be missed. Since the dose of tuberculin cannot be controlled, error may result in the direction of false negatives as well as false positives.

How much time does it take to administer the Mantoux test?

With a well-organized procedure, at least three tests can be given in a minute. At least three tests can also be read in a minute.

What is the cost of the skin test compared to the screening X-ray?

Considering the cost of materials and equipment alone, the tuberculin test is cheaper than the screening X-ray. It would be virtually impossible to make a general statement that in all situations a tuberculin testing screening program would be cheaper than a screening chest X-ray program without careful analysis of the facts. Factors to be considered are the anticipated number of reactors, the age of the groups to be tested, and the importance of keeping radiation exposure to a minimum. For example, tuberculin testing is undoubtedly more economical in groups where the number of reactors is low. In older age groups, where the number of reactors will be relatively great and chest pathology other than tuberculosis may represent a major portion of the significant findings, the X-ray is usually considered more appropriate.

How soon and how long after injection can the Mantoux test be read?

Reactions should be read 48 to 72 hours after injection, at which time, in most instances, they have reached their maximum. While in individual instances the test might be read before or after this period, in planning reading schedules, the 48- to 72-hour period should be observed.

Is it necessary to know what medical treatment a person may be under at the time of giving the skin test?

Contraindications for testing are acute illness, scabies, allergic dermatitis, and recent smallpox vaccination.

With a few exceptions, strong sensitivity to tuberculin once acquired persists throughout life, but sensitivity may wane in advanced age. This sensitivity may vary in intensity and temporarily may decrease or disappear in the course of high fever, exanthematous (characterized by eruption or rash) disease, miliary tuberculosis, the last stages of pulmonary tuberculosis, and during ACTH, cortisone, or hydrocortisone administration.

When can the skin test be given after BCG?

In order to determine whether a tuberculin-negative person has been successfully vaccinated, the tuberculin test should be given after approximately eight to twelve weeks.

What is the relative importance of the induration (swelling) and the erythema (redness) that are noted in the tuberculin reaction?

In interpreting the tuberculin reaction, redness is of less significance than swelling. If the area of discoloration is larger than 10 mm., retesting is indicated. The injection may have been made too deeply. Response to the test is classified on the basis of induration; reactions should be measured in millimeters at the largest transverse diameter and this measurement recorded.

What type of syringe is recommended for testing?

A special tuberculin syringe is used, particularly adapted for skin testing.

Excellent resource material is available to answer virtually all questions about tuberculin testing. Among these materials are: "The Tuberculin Test" chapter (revised January, 1957) in *Diagnostic Standards and Classification of Tuberculosis*. The ATS-NTA pamphlet, "Tuberculin Testing . . . Check Your Interpretation." The March, 1958, "Tuberculosis Abstracts" issued by the NTA, "The Practical Value of the Tuberculin Test," by Floyd M. Feldmann, M.D.

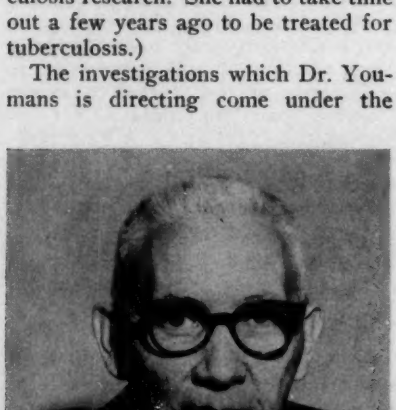
S

No one may enter one room of the tuberculosis laboratory at Northwestern University School of Medicine without permission. No one who has permission may enter without donning a white gown and putting a protective mask over the face in the outer of two anterooms. On leaving, the gown and mask must be deposited in a sterilizer, and hands must be carefully scrubbed.

These precautions are necessary because in the room itself work is carried on with a lethal agent—virulent tubercle bacilli.

The work is in charge of Guy P. Youmans, M.D., professor of microbiology at the medical school, located in Chicago, who receives a medical research grant from the National Tuberculosis Association. His principal assistant is his attractive young wife, Anne S. Youmans, Ph.D., who usually has a hand in the actual operations in the secluded room cut off from the rest of the laboratory. (With all the precautions, Dr. Anne Youmans has paid the toll exacted of many scientists engaged in tuberculosis research. She had to take time out a few years ago to be treated for tuberculosis.)

The investigations which Dr. Youmans is directing come under the broad classification of host-parasite relations; that is, what changes take place in the host—the animal or human body—when parasites, in this instance tubercle bacilli, invade it. Dr. Youmans considers that the two most important problems in this field in tuberculosis are the development of a "perfect" vaccine and clarification of the nature of acquired immunity.



Dr. Guy P. Youmans

The studies being aided by the NTA grant are directed primarily at the latter problem, and already Dr. Youmans and his associates have made exciting discoveries that may lead to a blood test for the diagnosis of tuberculous infection and disease. The lack of such a test has been a severe handicap in the diagnosis of tuberculosis.

Using a new technique in which the serum of blood is streaked on a gelatinlike substance, Dr. Youmans has been able to detect antibodies, not previously identified, which appear to be characteristic of tuberculous infection. The new technique may provide the needed serological test for TB.

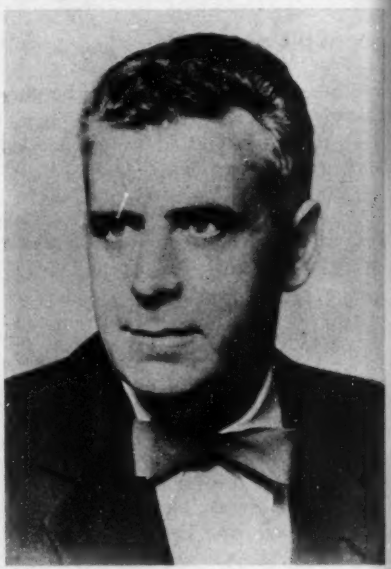
In studies on immunity, Dr. Youmans is trying to develop a vaccine which can be stabilized and will not produce allergy—that is, will not cause a reaction to tuberculin and, therefore, will not destroy that useful tool. He has already isolated a fraction of the tubercle bacillus which produces as much immunity in mice as the whole tubercle bacillus, but these studies are still in the experimental stage.

Back in the early days of chemotherapy in tuberculosis, Dr. Youmans tested the sensitivity of tubercle bacilli to streptomycin from the first patients to receive the drug. Dr. Youmans' interest in the tuberculosis microbe has never waned since then. Perhaps, from the closely guarded room in the Chicago laboratory, evidence will be produced that can be used to counteract the lethal power of the microorganism under study there.—A.S.F.

John E. Fogarty

House subcommittee chairman to be keynote speaker at NTA Annual Meeting

The Honorable John E. Fogarty, R.I., chairman of the House Appropriations Subcommittee on Labor, Health, Education and Welfare, will be the keynote speaker at the opening session of the Annual Meeting of the National Tuberculosis Association, to be held in Philadelphia, May 18-23.



Hon. John E. Fogarty

Mr. Fogarty has been a member of Congress since 1940 and a member of the appropriations subcommittee since 1946. As chairman, he has become nationally known as the spokesman for medical research and the "champion of better health for the nation." Through his efforts, the appropriations for the National Institutes of Health have risen from $3.5 million in 1946 to $241 million in fiscal 1958.

Leaders of both parties in Congress have publicly commended him for his efforts and accomplishments, and many national health organizations, veterans groups, educational associations, and business groups have awarded him distinguished service citations.

Dr. William M. Morgan, president of the National Tuberculosis Association, addresses the midwinter meeting of the NTA Board of Directors, held February 14-15, 1958, in New York City. Of 108 Board members, 95 attended the meeting.

NTA Board Meeting

The Board of Directors of the National Tuberculosis Association met on February 14-15, 1958, in New York City. The meeting marked the tenth anniversary of Dr. James E. Perkins' appointment as managing director of the NTA, and in his report to the Board on the Executive Office, Dr. Perkins reviewed the changes that have occurred during this period. At the conclusion of the meeting, a resolution was passed giving recognition to, and expressing appreciation for, ten years of devoted service by Dr. Perkins, and also expressing the Board's continued confidence in his qualifications and ability to serve the NTA.

In his treasurer's report, J. D. Colman pointed out that the NTA was reaching a crucial point in the financing of its operations: Without any allowance for expansion, regular operating costs were now exceeding current Christmas Seal Sale income. Therefore, Mr. Colman said, either some means must be devised for increasing the income of the national office, not only for research programs, but for regular operations, or program must be cut.

For the second successive year, a budget exceeding the estimated income was adopted. However, unexpended appropriations are expected to balance the budget by the close of the 1958-59 fiscal year.

Reports were then presented from the American Trudeau Society, by ATS president Dr. Theodore Badger; from the National Conference of Tuberculosis Workers, by NCTW president Kenneth C. Ross; from the Tuberculosis Program, U.S. Public Health Service, by Dr. Edward T. Blomquist, chief; and from the Tuberculosis Service, Veterans Administration, by Dr. William Tucker, director. These were followed by reports from 15 of the Board committees.

The major items of discussion and debate arose from the reports of the Qualifications and Contract and the Christmas Seal Sale Committees. The Q & C Committee recommended a policy statement regarding the withdrawal of the 17 tuberculosis associations remaining in United Fund campaigns by virtue of the "grandfather clause" in the current contract. (Associations participating in Community Chests or United Funds prior to February, 1952, are allowed to remain, but should be working toward orderly withdrawal.)

The Q & C Committee statement set forth three conditions that should make mandatory an association's withdrawal from United Funds: any change in present agreements with community fund-raising groups; any new restrictions by the community fund group on the Christmas Seal Sale; or any decrease in the TB association's share initiated by the community fund group. The committee also suggested three additional grounds for such withdrawal: if the community fund group changes its name, affiliation, or membership; if it changes its geographic area, bylaws, incorporation, or charter; or in any other situation where the relationship of the TB association and the community fund-raising group changes.

This statement was tabled and the report of the Christmas Seal Sale Committee presented. This committee, while agreeing with the philosophy of promoting the early with-

BOARD COMMITTEES

Program and Budget. *L. to r.:* Dr. William Morgan (NTA president), Ohio; Dr. Daniel Jenkins, Tex.; Dr. Theodore Badger (ATS president), Mass.; Judge Ernest Mason, Fla.; Wendell Van Loan, Ore; William Martin (chairman), Mass.; Dr. John Skavlem, Ohio; George Dixon, Ill.; Dr. William Province, Ind.; Kenneth Ross (NCTW president), Ore.; L. L. Taylor (NCTW), Ohio. At right, rear, are Dr. James Perkins (NTA managing director) and James Stone (NTA executive secretary).

Qualifications and Contract: *L. to r.:* Helen Ostwald (NTA); Norris F. Crosby (chairman), Iowa; Reverend James A. Bowers, S.C.; Dr. John L. Gompertz, Cal.; Russell H. Bolyard, La.; Dorothy Weston, N.Y.

Cooperation with Federal Agencies: *L. to r.:* Dr. William Tucker (guest), Wash., D.C.; Dr. Robert Yeager, N.Y.; Julian Sipple, Ga.; John Harrison (chairman), Mont.; R. Winfield Smith (NCTW), Pa.; Dr. Orin Farness, Ariz.; Dr. Joseph Stocklen, Ohio; B. E. Kuechle, Wis.

drawal of those 17 associations from United Funds, went further in recommending that the Seal Sale Contract be amended to remove the grandfather clause, and that this change be effected in the 1960-61 contracts (between constituent and local associations as well).

The NCTW Campaign Committee had presented to its Governing Council a recommendation almost identical to the Christmas Seal Sale Committee's, but it had not been approved. The Council believed that the NTA would be bypassing the constituent association in giving a mandatory order directly to the local associations involved. Therefore, the Council recommended withdrawal at the earliest possible date.

Considerable discussion followed these reports. Those opposed to setting a date were concerned that their efforts to persuade associations to withdraw voluntarily from United Funds would be seriously jeopardized by an ultimatum. They felt that the Q & C statement offered the field constructive leadership rather than an ultimatum. Those in favor of setting a withdrawal date believed the problem would exist for many years to come unless such a date was established, and that the integrity and independence of the Christmas Seal Sale would be weakened as long as any association remained with United Funds.

A vote was taken on the change in contract (but not on the date), and it was approved, but because of the closeness of the vote on a matter of such importance, the Board reconsidered the vote and postponed action on both the Seal Sale and the Q & C Committees' recommendations until May.

Two further recommendations of the Christmas Seal Sale Committee were that the Board request the ATS (1) to *consider* the advisability of going on record as supporting the American Medical Association House of Delegates action on December 5, 1957, approving the support of the voluntary health agencies by medical societies, and (2) to recommend to the state Trudeau Societies that they take action to obtain endorsement of the autonomy and independence of the voluntary health agencies by the county and state medical societies. Both of these recommendations were approved.

The Committee on Cooperation with Federal Agencies recommended and received approval to support (1) an increase of $5,000,000 for the Indian Health Division of

Christmas Seal Sale. *L. to r.:* Chester D. Kelly (NCTW), Ind.; William W. Lewis, Ohio; Dr. David T. Smith (chairman), N.C.; Clarence W. Kehoe (NTA); Jean C. MacCorison (NCTW), R.I.; Dr. Mario M. Fischer, Minn.; Dr. Howard T. Barkley, Tex.

the U.S. Public Health Service; (2) efforts to release construction funds previously appropriated for Indian health facilities; (3) an increase from $5,386,000 to $7,000,000 for the TB Program of the PHS, the same amount now available for fiscal 1958; (4) an increase of $5,000,000 for the National Institute of Allergy and Infectious Diseases, with a proportionate increase in the share for TB research activities; (5) the Administration bill for increasing salaries of Veterans Administration physicians. The committee recommended that the NTA take no position on the controversial Forand Bill, relating to amendments of the Social Security Act, as they are not considered germane to the TB control program of this nation.

The Grants-in-Aid Committee made a report establishing the purpose, the policy, and the criteria governing grants, but requested that it not be voted upon until May. The committee also reported that it had approved grants totalling $66,500 to five constituents and one local association, from original requests totalling $107,649. The committee has $83,190 available for the next fiscal year, and anticipates further requests.

A recommendation by the Committee on Tuberculosis Among American Indians that a voluntary contribution fund be established for grants-in-aid to areas where Indians reside, for Indian health, was postponed until May.

The report of the Committee on Organizational Structure was presented to the Board for information and further study, with action to be taken in May. In summary, the report makes five recommendations: (1) that each state association make an immediate study of its own organizational pattern and problems; (2) that state associations be strengthened financially, programwise, and leadershipwise; (3) that states assist in the development of strong locals where the population warrants, where the need exists, and where the potential funds are available; (4) that the efforts of local, state, and national associations be concentrated toward working out adequate financing of programs in large metropolitan areas; and (5) that all constituent associations with local affiliates be required to establish a qualifications and contract committee. This report had previously received the endorsement of the NCTW, and the complete report establishes guidelines for the accomplishment of the above five recommendations.

Organizational Structure. *L. to r.:* Mrs. R. Samuel Howe, Conn.; Clarissa Boyd (NTA); Norman Braden, Wash.; Jules Schneider (chairman), Mo.; Dr. Elliott Mendenhall, Tex.; Raymon Eldridge, Mass.; James Swomley (NCTW), Conn.; Dr. Bruce Douglas (ATS), Minn.; Robert Ragsdale (NCTW), Minn.; Frank Gibson (NTA).

Social Research. *L. to r.:* Regina Loewenstein (NTA); Mrs. Dalrie Lichtenstiger (NCTW), Calif.; Dr. Herbert J. Wilson, N.D.; Eleanor Connolly (NTA); Dr Sydney Jacobs (chairman), La.; Donald A. Trauger (NTA); Dr. Raymond C. McKay (ATS), Ohio; Thomas E. Bramble (NCTW), Pa.

Respiratory Diseases. *L. to r.:* M. J. Plishner (NCTW), N.Y.; Dr. Richard L. Riley, Md.; Dr. Daniel E. Jenkins (ATS), Tex.; J. Irvin Nichols (NCTW), Mich.; Dr. David T. Carr (chairman), Minn.; Dr. O. A. Sander, Wis.; Don A. Warner, Nebr.; Morris Barrett (NTA).

Grants-in-Aid. *L. to r.:* Mrs. Pauline Matthis (NTA); Frances Kord (NTA); Mark Harrington, Nebr.; Peter Janss (chairman), Iowa; George Williams (NTA); Dr. Howard Payne, Wash., D.C.; Edmund Wells (NCTW), Me.; C. Scott Venable (NCTW), N.C.

Modern tuberculosis hospitals are logical places for . . .

Teaching Communicable Disease Nursing

by Marion H. Douglas

Miss Douglas is vice president and a member of the Board of Directors of the National Tuberculosis Association; past president and a member of the board of directors of the Connecticut Tuberculosis Association; and coordinator of nursing programs for the Connecticut State Commission on Tuberculosis and Other Chronic Illness. Miss Douglas was formerly executive director of the Hartford Visiting Nurse Association and holds an M.P.H. from the Department of Public Health of the Yale Medical School. Her article was solicited by the Committee on Medical and Public Relations of the American Trudeau Society.

New methods of medical and surgical treatment and of the management of patients with acute and chronic diseases have resulted in many changes in the course of study for student nurses over the past decade. The question is not alone "What subjects should be included in the curriculum?" How and where the teaching should take place, and by what means the student nurse can obtain a better understanding of the relationships between nursing and other services to the patient, are also of importance.

Communicable disease nursing has been one of the problems. The marked progress made in the treatment of, and immunization against, communicable diseases has reduced the number of special communicable disease hospitals and contagious disease wards in general hospitals. Nevertheless, it is still mandatory that student nurses receive adequate training in caring for patients with communicable diseases. Since tuberculosis is one of our major communicable diseases, it seems logical to look to tuberculosis hospitals for this type of preparation.

Program in Connecticut

In 1947, when the Connecticut State Tuberculosis Commission was considering plans for an educational program for student nurses, it was felt that a modern, well-equipped tuberculosis hospital with a carefully developed educational program and adequate supervision offered the best opportunity for orientation and experience in communicable disease nursing.

The majority of the schools of nursing in the state of Connecticut expressed interest in an affiliation with a tuberculosis hospital where the student would have opportunity not only to learn the fundamentals of communicable disease nursing, but also to appreciate the emotional, economic, and social factors that play such an important role in the management of a patient with a chronic illness such as tuberculosis.

The State Board of Examiners for Nursing changed the ruling on affiliation for communicable disease nursing so that this training might be either in acute communicable disease, as formerly, or in tuberculosis nursing. An affiliation of eight weeks seemed to meet the needs of most of the schools.

Corporation Meeting

In compliance with its certificate of incorporation and bylaws, the National Tuberculosis Association will hold the annual meeting of the corporation on Friday, May 23, at 9:00 A.M., in the offices of Wadleigh B. Drummond, clerk of the association, in Portland, Maine.

At the beginning, it was decided that the affiliating student should be in the third year of her nursing education and should have had medical and surgical nursing, obstetrics, operating room experience, and, if possible, psychiatric nursing. Later, at the request of the schools of nursing, this requirement was changed to accept second-year students after they had completed their theory and experience in medical and surgical nursing. At the Seaside Hospital (for children with tuberculosis), in addition to these general requirements, the students must also have completed their theory and experience in pediatrics.

While this brings a somewhat less mature group of students to the tuberculosis hospitals, the affiliating schools believe that, with the rapid turnover of patients in general hospitals, the student benefits more by caring for, and understanding the needs of, patients with long-term illness earlier in her training. They also believe that experience in communicable disease nursing helps to perfect the student's skills and forms a sound basis for later experiences in her training.

During the eight weeks that the student is at the tuberculosis hospital, she attends numerous lectures by the medical, surgical, nursing, and public health faculties; witnesses demonstrations; enjoys ward experience and rounds; and prepares case studies. All forms of visual teaching aids are liberally used.

This program was inaugurated in the Connecticut state tuberculosis hospitals in 1948 under the direction of a coordinator of nursing education. Since that time it has steadily grown

in size and popularity. In 1957, 690 student nurses from 23 general hospitals received instruction and training in communicable disease nursing at the four tuberculosis hospitals of the state of Connecticut. Three thousand student nurses have had this experience over the past 10 years.

Planning for the Future

The nursing session of the 1957 Annual Meeting of the National Tuberculosis Association recommended that every nurse should be qualified to give care to tuberculosis patients and that every school of nursing should give tuberculosis experience to student nurses. This places a responsibility upon all of us to analyze the opportunities within a given area and to develop them to meet the newer trends in nursing education. These new trends include the possibility of shorter periods of specialized training, with more teaching being done by the basic schools. Since an affiliation is only part of the overall educational program, joint planning is essential if the preparation and experience of the student in the area of the specialty is to reach its highest potential.

At the same time that nursing education is faced with so many changes and considerations in relation to length of course, content, shortage in service personnel and in properly prepared teaching personnel, the tuberculosis hospitals, on their part, are concerned with changes in medical and surgical treatment, redefinition of programs, and the assumption of new responsibilities in the fields of pulmonary diseases, chronic illness, and rehabilitation.

The following facts must be taken into consideration in planning future nursing education programs:

1. Some tuberculosis hospitals and sanatoriums have been closed because the decline in the number of patients made their continued operation economically unsound.

2. Some general hospitals have maintained a long-established policy not to admit patients for treatment of tuberculosis and to transfer recognized cases of tuberculosis to tuberculosis hospitals promptly after diagnosis.

3. While tuberculosis can be treated in general hospitals without excessive hazard to other patients or to personnel (provided the same stringent adherence to techniques is carried out as in the tuberculosis hospital), this has not been done to any appreciable extent.

4. The partial conversion of modern, well-equipped tuberculosis hospitals may serve both their original purpose of treating tuberculosis and other urgent needs such as the treatment of other pulmonary diseases, chronic illnesses, and rehabilitation.

5. Contrary to previous estimates, there will probably be a need for many years to come for in-patient facilities for isolation and treatment of active cases of tuberculosis.

6. The undetermined number of cases of tuberculosis being cared for at home need supervision by visiting nurses with communicable disease and tuberculosis training.

There is general agreement on two points:

1. Nursing care of high quality will always be an important factor in the control of tuberculosis or of any other contagious disease.

2. Regardless of where the teaching takes place, there must be no dilution of standards.

Frequent joint meetings are held between the directors of nursing from the affiliating schools and the directors of nursing education of the tuberculosis hospitals in Connecticut in an effort to improve and broaden the education of students in the fields of tuberculosis, pulmonary diseases, contagious diseases, chronic illness, and rehabilitation. The results of this planning are reflected in the curriculums and the accreditation of the participating schools of nursing.

Emphasis should continue to be placed upon:

1. Teaching sound techniques and principles which are adaptable not only to tuberculosis hospitals but to general hospitals, the home, and the clinic.

2. Supplying the guidance and direction needed to develop confidence in dealing realistically with communicable diseases.

3. Preparing nurses on the staff, supervisory, and teaching levels to meet the new demands that arise in the fields of tuberculosis, chronic illness, and rehabilitation.

4. Reviewing and re-evaluating techniques and policies to keep them in line with current trends.

5. Maintaining close cooperation between the schools of nursing and the tuberculosis hospitals to develop a progressive program which will give a meaningful experience to the student in tuberculosis and long-term illness.

The fact remains that tuberculosis hospitals are, and will continue for some time to be, logical places for training and experience in certain aspects of nursing not readily available in many general hospitals—namely, tuberculosis, other pulmonary diseases, contagious diseases, chronic illness, and rehabilitation.

Louis Schwartz Dies

Seal Sale assistant had been with the NTA for more than 30 years

Louis Schwartz, assistant in the Christmas Seal Sale Division of the National Tuberculosis Association, died on February 19, at the age of 46.

Mr. Schwartz first joined the NTA in 1927, as a mail clerk, and was promoted to statistical clerk in 1936. From 1942 until 1945 he served with the armed forces as a second lieutenant, returning to the NTA in 1945 as a statistical assistant.

In 1949 he was named to the position he held until his death.

NCSW Annual Forum

"Accent on Prevention" will be the theme of the 85th Annual Forum of the National Conference on Social Welfare, to be held in Chicago, May 11-16. The theme will give the more than 7,000 social welfare leaders and workers expected to attend a chance to take stock of the nation's most pressing human problems and to chart ways to prevent them. Housing and membership forms can be obtained from the NCSW, 22 West Gay St., Columbus 15, Ohio.

Medical Sessions

Reservations needed for special medical sessions at NTA Annual Meeting

The medical sessions at the 1958 Annual Meeting of the National Tuberculosis Association, to be held May 18-23, in Philadelphia, Pa., will include six Sandwich Seminars and six Demonstrations. The Sandwich Seminars will be held during the lunch hour on Monday and Wednesday, to provide small groups of physicians with an opportunity to discuss various subjects with experts in the particular field. The Demonstrations will be held in the late afternoon Monday, Tuesday, and Wednesday, at nearby medical centers, to give physicians a chance to observe firsthand some of the work being carried on.

These programs are planned for physicians only, and all groups are limited in size. Reservations must be obtained in advance.

Information on the content of both the Sandwich Seminars and the Demonstrations can be obtained from the Preliminary Program of the meeting in the March BULLETIN and from the March *Newsletter* of the American Trudeau Society. The latter publication also provides reservation blanks for both groups of sessions.

Tickets for the Sandwich Seminars may also be reserved by writing to R. Winfield Smith, Pennsylvania Tuberculosis and Health Society, 311 S. Juniper St., Philadelphia. Reservations for the Demonstrations may be obtained by writing to Richard Blake, National Tuberculosis Association, 1790 Broadway, New York 19, N. Y.

Any leftover reservations will be available at the Registration Desk at the Annual Meeting.

Radiation Committee

Surgeon General appoints national advisory group on radiation hazards

Surgeon General Leroy E. Burney has established a National Advisory Committee on Radiation to assess the extent and characteristics of radiation health hazards, to review present plans for coping with these hazards, and to assist and advise the Public Health Service on future control programs. Dr. Russell H. Morgan, radiologist in chief, Johns Hopkins Hospital, is chairman.

The committee held its first meeting on March 13, to consider medical aspects of radiation, including research, training, and control procedures. Dr. Morgan said that the meeting was "the first in a long series of such sessions, out of which the general practitioner may reasonably expect standards for safe levels of radiation exposure and guidance for safe operating procedures of his radiation equipment to emerge."

Committee Members

Committee members are: Dr. Arnold O. Beckman, president, Beckman Instruments, Inc., Fullerton, Calif.; Dr. Victor P. Bond, of Brookhaven National Laboratory, Upton, L. I.; Dr. Richard H. Chamberlain, professor of radiology, University of Pennsylvania, Philadelphia; Dr. James F. Crow, professor of genetics, University of Wisconsin, Madison; Dr. Herman E. Hilleboe, commissioner of health, Albany; Dr. Edward B. Lewis, professor of biology, California Institute of Technology, Pasadena; Dr. Berwyn F. Mattison, executive secretary, American Public Health Association, N. Y.; Lauriston S. Taylor, chief, Atomic Radiation, National Bureau of Standards, Wash., D.C.; Dr. George W. Thorn, physician-in-chief, Peter Bent Brigham Hospital, Boston; Dr. Abel Wolman, professor of sanitary engineering, Johns Hopkins University, Baltimore.

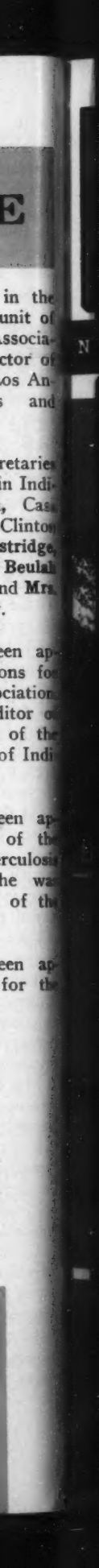
PEOPLE

William Keyser, associate in the Federal Government Liaison unit of the National Tuberculosis Association, has been appointed director of Christmas Seal Sale for the Los Angeles County Tuberculosis and Health Association.

The following executive secretaries have recently been appointed in Indiana: **Mrs. Garland Huston,** Cass County; **Mrs. Margaret Carr,** Clinton County; **Mrs. Howard T. Eastridge,** Crawford County; **Mrs. Beulah McCrady,** Harrison County; and **Mrs. K. F. Allman,** Jasper County.

Donald C. Berndt has been appointed director of publications for the Indiana Tuberculosis Association. Mr. Berndt was formerly editor of *General News,* a publication of the General Telephone Company of Indiana.

Mrs. Nina DeVoe has been appointed executive secretary of the Curry County (Ore.) Tuberculosis and Health Association. She was most recently vice president of the association.

Miss Joan Cotler has been appointed a health educator for the Tuberculosis and Health Society of Wayne County (Detroit, Mich.), after completing a course of study at Wayne University under a scholarship from the association.

PRINTED IN U.S.A.